



MEGALITHIC STRUCTURES IN JORDAN

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ABSTRACT

This article addresses dolmens and menhirs in Jordan. These remarkable megalithic structures were (and in some places still are) spread in large numbers over a substantial part of the country. Dolmen fields have been reported in Jordan and, particularly, in the Irbid and Jordan Valley regions, as well as north of the Zarqa river, around Mount Nebo and south of Ma'in. Research has shown that these structures developed some variation in typology. Most of them can be dated to the Early Bronze Age, based on the (little) excavated material. At the same time, some dolmens were probably built and/or reused in later periods.

Upright standing stones or menhirs have been encountered in different parts in Jordan. The most famous one is called Hajar al-Mansoub, erected in a field overlooking Wadi Zerka Ma'in from the north/west. Menhirs occur as a single stone or in small groups, a typical example of the last category being a row of (probably) 16 'pillars' at al Lejjun in the Kerak Governorate. Most scholars presuppose a cultic relationship. The dating of monoliths has proven even more difficult than dolmens; all the same the Adir menhir and some others have been associated with the Early Bronze Age I.

KEY WORDS: dolmen, menhir, geographical distribution, typology, dating, function.

INTRODUCTION

This paper addresses two important types of megalithic architectural remains in Jordan: dolmens and menhirs. The first, predominant,

group has already been the subject of numerous travel accounts as well as several field studies and excavations. Because of the absence of sustained field research and

subsequent published material related to menhirs, however, as well as the scarcity of context of these erected stones in situ, this second group has so far not been given much attention. We too will focus on the issue of dolmens, but will at the same time make some attempt at defining menhirs in Jordan in relationship to their direct context and environment. This paper does not touch upon other phenomena usually related to megalithic structures, such as low stone alignments (which are very frequent in Jordan), stone-lined circles, rock-cut chamber tombs or so-called 'cup-holes'- often clearly associated in space with one or other of the phenomena described below. Finally, although in fact the technical terms used for both structures do not really seem really adequate, for the sake of convenience the well-known terms *dolmen* and *menhir* have been used respectively to describe box-like megalithic structures made out of (most often) unhewn slabs, and erected large-size monoliths.

The following discussion of these two main architectural megalithic features is based on a literature review as well as personal visits to dolmen and menhir sites in Jordan.

I. DOLMENS

Geographical Distribution

The archaeological fieldwork in the Levant so far has shown that the dolmen fields there are mostly concentrated alongside the Syrio-African Rift, and basically extend from northern Syria to central/south Jordan (Ilan 1997, 168). The largest concentrations occur in southern Syria, north-east Israel and the Golan, and in northern Jordan, as far south as the Wadi Zerka Ma'in (south of the town of Madaba). They have also been found, but in much smaller numbers, in Lebanon, west of the Jordan River as well as sporadically in Saudi-Arabia as far down as Yemen and, finally, west of the Jordan River. It has been

suggested by some that their scarcity on the west bank of the Jordan (except for the north), is due to the fact that the dolmens in Galilee had later been destroyed by the Israelites, as relics of idolatry, but this is disputed.

In Jordan itself, dolmens are usually encountered concentrated along wadi slopes, on escarpments and clearly limited to areas where the large slabs quarries were readily available and easily transportable. Thus, dolmens will always be found at a short distance from the original quarry, the specificity of a geological formation being a (co)determining factor for their presence.

Geographically speaking, dolmens are widely distributed in Jordan; they can be encountered in an area extending from the Jordan Valley in the west until the Badiyah region in the east, and from Syrian border/Yarmouk River in the north down to the towns of Shobak and Ma'an in the south. The Jordanian Antiquities Database and Information System (JADIS) records 101 different sites, but not all available research has as yet been incorporated in the system and new fields are still being discovered (a recent example being remains of about 7 dolmens, recognised by Zeidan Kafafi in November 2004 in modern Amman, in an area called Tla al Ali).

Although individual dolmen have been signalled, they tend to occur concentrated in larger numbers and some areas still embraced hundreds of specimen in the nineteenth century; even today a couple of fields still witness up to a hundred remains. Within the area as geographically defined above, several major dolmen fields have been identified in Jordan in the following regions, ranging from north to south:

1. Irbid/Ajlun Region

Dolmens are mostly concentrated to the north, north-west and south of the city of Irbid. One fine example of Zohar's Type D

"Double-Chamber" dolmen (see below) is still visible next to the main road leading from the town Al-Husn to Kafr-Yuba, west of the village and Tell of al Johfiyyeh. Other dolmens were recorded in the areas of Al-Husn, Qafqafa, Umm Khruha and around Kafr Abil and as far east as Rassun on the slopes of the Wadi al Yabis, nowadays called Wadi ar Rayyan (Oliphant 1880; Schuhmacher 1890; Stekelis 1935, 30-31; Glueck 1951 and Palumbo 1990; 1992). Schumacher still counted around between 800 to 1000 dolmens in the area surrounding Kafr Yuba (Wadi Bersinija and Wadi Shomar). Another dolmen group has been registered in the area located south of the village of Juffein, in the vicinity of Kura vicinity (Stekelis 1935:30). On the whole, however, very few dolmen still nowadays remain intact nowadays in this region.

2. The Zerqa Valley Region

Dolmen fields have been registered in several areas north (and a few south) of the Wadi az-Zerqa, in particular in a large area located to the south-east of the city of Jerash. An important dolmen field at the site of Jebel Muttawwaq has recently been surveyed and partly excavated by a Spanish-French team (Fernandey-Tresguerres 1991; Steimer-Herbert 2004).

3. Jordan Valley

This area includes three different major dolmen fields, namely:

a) *Damiyeh*, which was first mentioned in 1817 by Irby and Mangles (1844), was described by many others subsequently. Limited excavations took place in 1942 and 1943 by M. Stekelis (1961), who called the site Ala-Safat. The site has been revisited later when some further small rescue-excavations took place (Swauger 1964; 1965; Dajani 1967 and Yassine 1985). In addition to the dolmens, several stone-circles were recorded by the

surveyors as well as rock-cut chambers, with portholes clearly similar portholes as to those of many of the dolmens. A smaller group has recently been identified on the northern slopes of the Zerqa river close to Deir Alla. In 2005 the Department of Antiquities conducted an extensive survey of the area (not yet published) in view of its planned partial destruction by a stone quarry.

b) *Al Rawda* Field: this large area, which has been given many different names in the literature (e.g. al-Matabi, el-Quttein, Kaffrein, Tell Iktanu), is located close to many well known archaeological sites such as Tell Iktanu, Tell al Matabi and Tell Hammam. When driving down from Naur towards the King Hussain bridge parts of a large dolmen field can be seen, close to the village of Rawda (directly east of the hamlets of Esh Shaghur and El Mazar), situated about 500m south of Tell Hammam against the foothills of the Jordan valley. The dolmen fields are actually spread over several valleys and seemingly connected with neighbouring enclosures and circles, while at least one menhir stands at its southern end. Unfortunately this menhir was pulled down and partly broken in November 2004 by gold diggers. The total area in question ranges from Wadi Kaffrein down to the lower slopes of the Wadi Hesban/Wadi er-Rameh (Prag 1995, 79). The area has recently been revisited by Scheltema and Kafafi where they collected EBI pottery sherds from several previously plundered dolmens. No excavations proper have been conducted at this large dolmen field yet.

c) *Al-'Adheimeh*: the site was first explored by Neuville (1930) and subsequently investigated by M. Stekelis who identified 168 cists and dolmens, some of which covered by tumuli and containing human

skeletal remains (Stekelis 1935). Stone-circles have also been found, whereas dolmens (still around 100 in the first half of the twentieth century) were close to the main burial field. This field has however recently been largely destroyed by stone-quarrying. All the same, about 30 dolmen can still be found at its southern end, some of which are partly covered by cairns. The area is located a few kilometres south/south-east of the well-known Chalcolithic/EB site of Teleilat al-Ghassul.

4) Belqa Region

This includes the dolmen fields surveyed in the es-Salt, Amman and Madaba areas. In the nineteenth century the teams of the *Survey of Eastern Palestine* and other surveyors registered several dolmens in the actual city-centre as well as in the direct vicinity of Amman, such as at the villages of Mobas in the Beka'a basin and er Rumman, both located close to the modern highway Amman-Jerash (Mackenzie 1911; Dalman 1911, 23, 25, 28-31). Major dolmen fields were identified at al Mataba; Hesban (Conder 1889; Dajani 1968, 56-64); in the Mount Nebo Area (Conder 1889; Mortensen 1992; 1993) and a very large field at Wadi Jadidah (Conder 1882; 1889; Stekelis 1935, 32; Mortensen/Thuesen 1998, 85-99). Chang Ho C. Li surveyed a previously unnoticed group of dolmens in the area of Iraq al-Amir in the late nineties (Li 1997). Moreover, Conder and others listed another important dolmen field at al-Magheirat, situated on the north/east slopes of the upper Wadi Zerqa Ma'in, where many dolmens can be found in combination with several menhirs and alignments (Irby and Mangles 1844, 143; Conder 1889, 184-189; Jaussen and Savignac I, 8-15; Savage 2001).

5) Ard al Kerak Region

During his surveys in the al Kerak region, U. Worschech (1986; 2000) recorded a single

dolmen north of the village of ed-Dimna. Very recently M. Marahleh, S. Nawalleh and E. Dubis also surveyed two dolmen sites close to Shobak (Umm Towairat I and II, not published). It is clear that dolmens become much more sporadic in the area south of Moab; the southern-most dolmen in Jordan so far having been recorded north/west of the city Ma'an (Vincent 1898, 450-451, but not recorded since).

Whereas nineteenth-century visitors spoke about thousands of dolmens, suggesting that modern-day Jordan was at that time still the most densely dolmen-covered part of the Mediterranean, considerably less than a thousand in all seem to remain fairly intact nowadays. A more estimated guess at their surviving numbers is however yet to be made, combining the different comprehensive archaeological regional surveys which have been undertaken over the last decades, as well as up-to-date JADIS information.

Their survival was -and is- threatened above all in the (more densely populated) north, but even at major more southern fields, such as al-Magheirat and Rawdah, megalithic remains are seriously endangered, in particular by the ever-hungry stone quarries. Furthermore, the dolmens have everywhere become victims of a persistent search for gold, often thought to be hidden within the slabs themselves! The population pressure, involving newcomers to the area (e.g. army units), lead to a disturbance if not collapse of the traditional local relationship between man and nature, including the direct archaeological environment.

HISTORY OF RESEARCH

Megalithic structures such as dolmens spurred the imagination of explorers and travellers of the Holy Land and the Levant as early as the first half of the nineteenth century (for a survey of the early literature see: M. Stekelis 1935, 16-21). From that time on,

several archaeological surveys and a few excavations have been undertaken to explore and understand the dolmen sites. Whereas a detailed study on lithic superstructures in the Levant, including a historical chapter, has recently been published (Steimer-Herbert 2004, 6), we thought it useful to present below a synopsis of the history of dolmen research in Jordan.

1. Explorers' and Travellers' Reports

During the nineteenth century several century explorers of the Holy Land, missionaries such as the Dominicans of the Ecole Biblique Française de Jerusalem, soldiers such as the British Sir Percy Cox from the Cairo Office and Arabian travellers such as C. Doughty reported on the dolmens which they noticed in Jordan. Their reports mainly limited themselves to a mention of these structures, clearly visible as they were in the landscape; but sometimes their more detailed descriptions were accompanied by drawings.

The first report on dolmen fields should thus be attributed to two nineteenth-century travellers, Irby and Mangles, who described, during their travels in 1818-1819, two dolmen fields located east and north-east of the Dead Sea (Damiyah and al Mareighat respectively). In 1864 the Duc de Luynes visited the necropolis of the Damiyah/Ala-Safat, while in 1865 de Saulcy explored the al Adeimeh dolmen field. Kitchener (1878), Oliphant (1880), Merrill (1881) and above all Schumacher (1888) reported on dolmen fields which they encountered while travelling east of the Jordan, especially in the Irbid and Ajloun regions. A major further step forwards was taken when the team of the 'Survey of Eastern Palestine', lead by Lt. C.R. Conder, surveyed many different fields, including those around the Mount Nebo and Hesban, as of 1881. Conder's impressive work in this field must be considered as a milestone in dolmen research in the Levant.

A few years before World War I, the French Dominican fathers Jaussen and Savignac conducted extensive archaeological and ethnographical surveys in the area between Jerusalem in Palestine and Mada'in Saleh in the north-western part of modern Saudi Arabia. In their report they included more specific information about the dolmen fields in the Mount Nebo/Madaba/Masloubiyyeh area as well as al Mareighat, south-west of the town of Ma'in (Jaussen and Savignac 1907, 8-16). In 1911, D. Mackenzie in turn paid specific attention to a number of then still existing megalithic stone structures in Jebel Amman.

In the course of the twentieth century this type of general descriptions however became more sporadic (with the exceptions of Glueck 1945 and 1951; Lankaster Harding 1959), as scientific and investigative research moved away more and more from monumental archeology, and focussed on excavations of settlements.

2. First Excavations

It was Schumacher who, in 1898, undertook a first excavation of a few dolmens in Jordan close to the city of Ajloun (Schumacher 1890). Unfortunately, the results of his work shed little light on the function and date of those dolmens. His research was followed in 1930 when R. Neuville and R. P. Mallon excavated six dolmens at the al 'Adeimeh field and inspected several cists, cromlechs and tumuli (Neuville 1930), again, without much unequivocal result.

After the First World War, when Jordan became part of the British mandate, relatively few archaeological projects were undertaken on the east bank of the Jordan, as compared to those on the western side. This should to some extent be attributed to the fact that attention was primarily focused on the identification of biblical sites. All the same, Nevertheless, M. Stekelis conducted new and extensive

excavations at al 'Adeimeh in 1935, which were definitively more intensive and informative than the one Neuville had conducted earlier -although in fact Stekelis' work was basically limited to cists. Stekelis followed this up through extensive excavations of the Damiyeh dolmen field in the years 1942-1943. His publications included detailed photos, plans and line-drawings for the first time. The research of Stekelis definitely increased the limited knowledge of dolmens in Jordan.

3. Test Excavations

During the second half of the twentieth century a few rescue and test excavations as well as test excavations were undertaken, since many dolmens started were rapidly destroyed by both human and natural causes. In the Jordan Valley area for example, R. Dajani (1963) made soundings in a few dolmen sites at Damiyeh/Ala-Safat and Umm al Quttein. This was followed by further rescue work by K. Yassine at Damiyeh, where he excavated two dolmens in 1985.

The eighties indeed became a starting point for renewed research. In the period from 1989 to 1991 a Spanish-French team surveyed some of the dolmen fields in the area extending alongside the Wadi az-Zarqa and excavated a few dolmens in the Jebel Mutawwaq area (Fernandez-Tresguerres 1991; Sapiñ 1992). This was followed up by a more extensive field survey of the dolmens located in the same area (Steimer-Herbert 2004). A single dolmen was excavated in the nineties in the framework of the Madaba Plains project (Dubis and Dabrowski /Umayri 5) at Tell al 'Umayri. Finally, both Palumbo, Mortensen and Chang Ho C. Ji made soundings of some dolmens in the nineties, at Wadi al Yabis, Wadi Jadida and Iraq al Amir respectively.

Towards the end of the twentieth century some interest in the issue of dolmens was

renewed as a new generation of archaeological surveyors started to systematically register, record and describe these structures, e.g. at the Wadi al Yabis Survey (Palumbo 1990-1992), Mount Nebo/Madaba region (Mortensen 1992 and 1993) and the area located to the north-east of the Dead Sea (Prag 1995), in the region of Iraq al Amir (Ji 1997-2000) and the al Karak region (Worschech 1986; 2000).

All in all, many descriptive reports have been written about dolmen fields in Jordan over the last two centuries. However, only few (and random) excavations have been conducted so far. The excavations by M. Stekelis during the thirties and forties of the last century must be singled out amongst them, because of their early as well as intensive and comprehensive character, which produced relatively large quantities of archaeological evidence and subsequent valuable information about the sites concerned. The last fifteen years have, at the same time, witnessed a few more excavations in Jordan (and elsewhere in the Levant), providing some important new and additional data, which will be discussed below.

Random, as well as more systematic surveys conducted, for instance, by R. Khoury in the eighties (1988) and H.G. Scheltema (PC) currently aim at presenting additional information about the geographical distribution and the types of the dolmen fields in Jordan, whilst also noting their actual condition.

A comprehensive Ph.D. study, submitted to the University of Paris 10 by Tara Steimer-Herbert in 2001 and published in 2004, may be considered as a first comprehensive reference for megalithic superstructures in the Levant and the Arabian Peninsula (Steimer-Herbert 2004). It includes a thorough overview of the dolmen distribution and their classification within the wider group of pre-historic burial architecture.

TYPES OF DOLMENS

In Jordan, a dolmen can be defined as a megalithic structure shaped in the form of a table, consisting of a capstone most often resting horizontally on either two or three upright large slabs of stones. In most cases these stone-slabs are unhewn. However, those excavated e.g. at Damiyeh are often completely enclosed by four upright slabs: in some of them a small square opening (“porthole”) had been carved out, often with an incised frame. Also, dolmens found recently east of the village of Rassun (Ajlun area) are remarkably neatly carved on the inside. This carving seems to have been contemporary with the erection of the dolmen but may also be related to a later (Byzantine?) use.

Lankaster Harding described the Jordanian dolmens as “box-like” structures (Harding 1967, 30). As already mentioned they are most often found in groupings and display a variety of types or forms. It seems that this type of structure was sometimes (but certainly not always) originally covered with a heap of stones or earth (cairn or tumulus), which has subsequently been subsequently eroded (Swauger 1964; Zohar 1993, 252). A few dolmens at Damiyeh and al-’Adheimh still show the remnants of these stone heaps.

Very often, the dolmen was constructed upon a (mostly) round circular stone platform, delineated by relatively large boulders, usually measuring between 4 and 6 meters in diameter.

It has been suggested that the dolmens found in the whole of the Syria-Palestine area, which consist of a limited number of types, belong to one and the same architectural tradition (Zohar 1992, 44). Though the dolmen typologies are not completely identical, some scholars classify six general types occurring in the Levant (Zohar 1992, 44-47 and 1993, 352 which simplifies Epstein 1985; a classification proposed by Steimer focuses on the number of slabs, as well

as the presence of platforms/circles), based on factors such as the shape, size, depth and their association with other architectural installations such as walled circle/platforms. Below, we present a brief summary of the types based on Zohar, recognising that this classification might need adaptations in the future:

1. Type A: this represents the basic type and consists of two upright slabs and a capstone. At some cases it is/was closed on one side by a third upright slab (or closed completely by a fourth one) (Fig. 1, 2). This type is well represented all over Jordan. It forms a small low chamber,

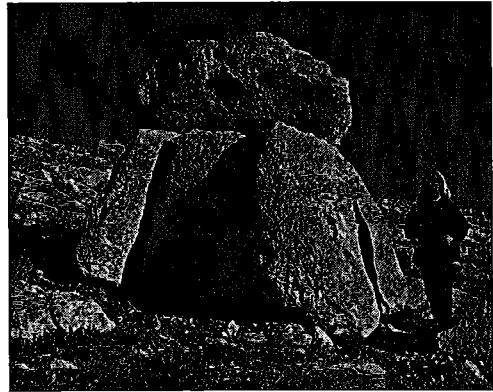


Fig. 1: A dolmen from Al Kueijiyeh (Wadi Jadidah)

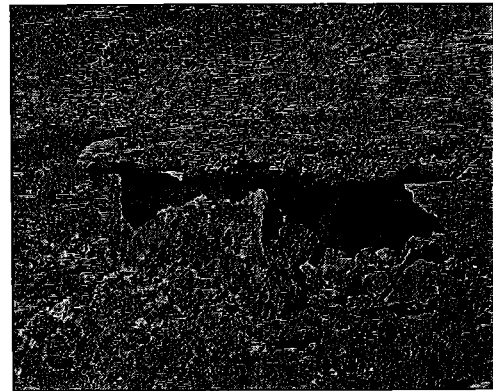


Fig. 2: A dolmen at Al Adheimh, with remnants of stone covering

measuring on average ca. 1 m in height, and 2 m to 3 m in length, but can be considerably larger, depending on the available material. Sometimes the structures were (more or less) sunk in the ground and should rather be referred to as cists. The floor was made either of another single large slab or a pavement of cobbled stones; alternatively it was placed directly on the bedrock.

2. Type B: this type of dolmen was constructed with four or more upright slabs and roofed with one or more capstones. It is generally larger in size than those of "Type A" and may reach up to 10m by 4m. The entrance was generally created on one of the short sides. The floor of this type of dolmens is often made of a rough pavement. It is uncommon in Jordan.
3. Type C: in this case the walls of the chamber were formed by slabs resting horizontally one above the other, rising in step-like tiers and topped by several slabs forming a flat or corbelled ceiling. It can reach 10m in length but rarely more than 2m in width and is constructed directly on the bedrock. This type is not found in Jordan, but is confined to a restricted area around the Lake of Galilee Tiberius.
4. Type D: this rare type consists of a double-chamber with three walls covered by one large capstone. It is built on a podium and can measure 3 to 5 m in length. To our knowledge only one example survives west of Irbid.
5. Type E: again a very rare type, a double-chamber defined by one chamber on top of the other, formed by inserting a slab into parallel notches cut on both sides of the vertical slabs. Some of them have a front-slab with double portholes. It has been found at Damiyeh (Fig. 5). The Tell al-Umayri dolmen seems to have been split horizontally by a wooden floor.

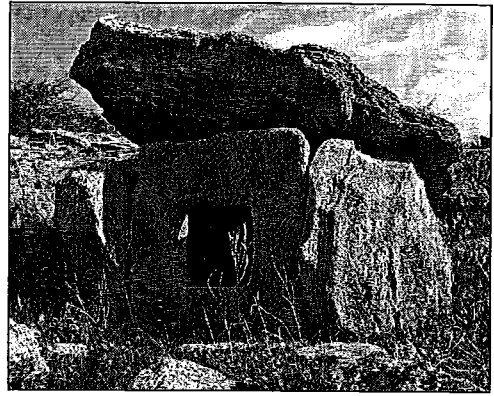


Fig. 3: A dolmen in the Damiyah field, with framed porthole

6. Type F: this 'pseudo-dolmen' type is characterised by boulders, hollowed out mostly from above, often with a porthole, covered by a capstone and often surrounded by stone circles. It is however sometimes hard to distinguish from other types of rock-cut graves.

It should be mentioned here that these basic types are most often seen together without any particular order, but with the basic type A clearly dominating everywhere. This differentiation in shape and style of dolmens has been explained by some as representing tribal characteristics (Zohar 1992, 46), but there is no clear evidence for this so far.

As already mentioned, most dolmens were erected on a relatively flat surface, either cut in the natural bedrock or built up by levelling the surface. In particular in the Irbid and the Jordan Valley areas, the dolmens were often surrounded by small and medium stones forming a raised, most often circular, platform. It has been suggested that these circles of stones may indicate a restricted area around the dolmen rather than simply a levelling of the surface. Some dolmens sometimes are surrounded by one (or more) stone circles as such, and/or connected to an alignment of stones, which may have had a cultic purpose.

The orientation of the dolmens varies and no strict consistency has been observed in any dolmen field, let alone between them, although a certain orientation often dominates in a particular field (Steimer-Herbert 2004; Zohar 1992, 47). Often, but not always, they were constructed following the slope of the hill. Whether this was done for practical reasons or according to some cultic conviction (parallel to the flow of the water?) remains to be studied further. In any case they were usually built on escarpments, where water was never far away.

FUNCTION

People have of course long speculated about the function of the dolmens and their builders. Some scholars, as recent as Wright (1938, 305-339) attempted to correlate them with Biblical texts and suggested that they were built by the giants of the Old Testament: the Rephaim, Anakim, Emim and/or Zamzumim. Others saw in them "obscure architectural remains of vanished civilisations, altars for ancient sacrifices, astronomical markers, sign posts for a mysterious communication system, or other strange phenomena" (Zohar 1992, 43). Several earlier scholars have indeed considered these monuments structural remains of an ancient religion (Service and Bradbery 1981; Condor spoke of habitations or altars). However, they have long since been identified however as individual tombs or group cemeteries (Prag 1995; Zohar 1992; Yassine 1985 and Stekelis 1961; 1935; Steimer-Herbert 2004), as is the case elsewhere in the Mediterranean basin. The lack of actual human sepulchral finds (or, for that matter, pottery) at dolmens, for instance in the region of Irbid and the Wadi al Yabis (Ayyub; PC and Palumbo 1990), have lead some to suggest that the dolmen served only as a primary burial place, from where after the bones were later transferred to another, final, resting place (Ilan 1997, 168).

They might even have served sometimes as purely symbolic tombs, which would explain the complete absence of sepulchral remains. There seems to be a prevailing opinion nowadays, however, that most, if not all, dolmens were actually used as secondary, rather than primary, tombs (Epstein 1985; Yassine 1985). There is also little doubt that some have been re-utilised as such up to the Byzantine era.

DATING

Due to the fact that megalithic structures are very visible, they have been always suffered from the threat of destruction and most were often already repeatedly looted back in antiquity, which contributed to the remarkable scarcity of quantitative and useful dating evidence. As mentioned above, many scholars have pointed out the almost total lack of pottery associated with dolmens. A fact which is all the more surprising, since past looting and the ever-hopeful search for gold most likely should have led to some pottery being broken on the spot. Furthermore, as Glueck already noted, "the discovery of pottery in or by them proves absolutely nothing with regard to the date of their original construction". He thus did not hesitate to date them as to the 6th millennium BC... However true his observation, dating does become convincing when pottery and/or bones are found underneath the base slab, as was the case in Damiyeh.

On the basis of the still scarce evidence, several suggestions have been proposed in the past. Albright (1960, 64), for example, dated them to the Pre-Pottery Neolithic; Anati (1963, 280) related the dolmens to the fifth millennium BC, and Ilan (1997, 168) suggested that the dolmens should be dated to a period ranging from the late fourth millennium (Early Bronze I; 3200-3000 BC) to the late second or early third millennium BC. He was also one of the first to note that

some finds indicated that they continued to be utilised throughout the second millennium BC and later. Based on a regional study utilising ethnographic and ecological data, K. Prag (1995) related the dolmen fields in the Dead Sea region (Rawda dolmen fields) to the EB I.

Having said this, at the site of Al-Adheimh pottery vessels were found inside cists, dating from the late Chalcolithic (4500-3200 BC; Stekelis 1935, 77-80). Buried cists, however, are clearly not dolmens, but are often thought to be a precursor of this structure. The Damiyeh dolmen field, on the other hand, is the first to have produced clearly EB I period pottery vessels (Stekelis 1961; Yassine 1985). Thus, clear Early Bronze I evidence was first found by Stekelis, and subsequently by Yassine, at Damiyeh.

The material associated with dolmens at Jebel Mutawwaq was dated as EB I (T. Steimer), whereas late Chalcolithic and Early Bronze Age sherds, thin scrapers made on tabular flint and fragments of basalt jars found in association with the dolmens and lines of standing stones at Wadi Jadidah suggest that they were built and in use during the first half and the middle of the fourth millennium BC (Mortensen and Thuesen 1998). The single dolmen which E. Dubis and B. Dabrowski excavated in 1996 on the south slope of Tell al Umayri (south-west of Amman) provided a wealth of material, clearly datable to EB IB (3100-3000 BC; Dubis and Dabrowski 1996). In fact this has been one of the few recent adequately documented archeological excavations of a dolmen in Jordan, yielding dating material!). In the 'Iraq al Amir area a rock-cut chamber yielded late Chalcolithic/EBI material and Loh and Ji (2000) suggest a connection between the dolmen fields and the Chalcolithic and EB villages nearby, although they do not exclude that the rock-cut chambers slightly antedate the dolmens. Recently, at the dolmen fields of Umm Towairat (Shobak) some seemingly

unspecified EB sherds were found during the excavation of two tombs along with a few fragments of human bones (Jordan Department of Antiquities, not published). The sherds, collected around plundered dolmens in the Rawdah region by Kafabi and Scheltema also point to an EB I date.

It seems therefore that the dolmen fields in Jordan can be assigned to several sub-periods, possibly already starting with as early as the Ghassulian Chalcolithic (middle of fourth millennium BC) and certainly reaching a peak in the Early Bronze Age (in particular EB I) and possibly continuing up to the Middle Bronze Age II (ca. 1800 BC). This conclusion, so far mainly based on pottery, is exemplified by the results of excavations conducted by K. Yassine at the Damiyeh dolmen field, where he discovered that a simple trilithon was later built over and covered by a larger dolmen. This first of all suggested that the builders of the later dolmen profited from the same know-how as earlier builders. In addition, it turned out that the earlier dolmen had remained undisturbed, from which Yassine excavated a large amount of EB I pottery sherds and pots (Yassine 1985).

In line with Stekelis' finds at al-'Adeimeh, some scholars have suggested, as said, an architectural transition from the cist to the erected dolmen in the Chalcolithic – EB I period, but the evidence for this is still too scarce to be conclusive. It should also be noted that the dolmens on the Golan and on the Corazim plateau west of the Golan have so far been dated to EB IV/Intermediate Bronze Age (2250-1900 BC; Epstein 1985, Y. Stepanski unpublished). This might indicate that the megalithic architecture moved north only at a later period.

As dolmens were clearly re-used in later periods, it has also not been uncommon to find Iron Age (Dajani, Dabrowski), Roman (Schumacher) or even Byzantine material in the tombs. Most important however, in Jordan

there is still a lack of appropriate C14 dates from the bones, which would certainly help in dating many of the human remains more accurately, let alone possibilities offered by new techniques such as optical thermoluminescence.

Finally, it has been pointed out that many dolmen fields occupy land best suited for pasture, which has led many researchers to suggest that they should be associated with (semi-) nomadic pastoral populations. Some have gone as far as to suggest a relationship between dolmen fields on the upper slopes of wadis with those down in the Jordan Valley to the west. They would suggest a seasonal use of the upper and lower slopes of the same wadi's, resulting in dolmen fields at different altitudes. It has to be pointed out, however, that the architectural forms of the different fields do not favour such a direct link, nor do the (lack of) finds themselves. Several other scholars have argued that they should be associated with Chalcolithic and Early Bronze Age settlements which can often, if not always, be found close by (Vinitzky 1992; Yassine 1985). Although a definite choice at this stage of research would be difficult, if not impossible, one is tempted to agree with Zohar when he suggests a conceptual and material fusion in the transitional Early Bronze Age of two different architectural burial traditions: one still rooted in the world of the mobile pastoralist and the other of the sedentary agriculturist.

II. MENHIRS

Erected megalithic stones, commonly called *menhirs* in Western-Europe, as well as smaller stelae or monoliths, are found in Jordan sometimes close to dolmens (or seemingly contemporary tumuli), sometimes without this sepulchral environment. Monoliths or menhirs were intentionally erected and usually neither inscribed nor decorated (although the deep, slightly

rounded carving of the Hajar al Mansoub at al Magheirat seems original). They often occur as a single stone or in small groups, the most famous of the last category being the row of probably 16 'pillars' at al Lejjun.

Menhirs in Literary Sources

As little was known about their date and function early scholars found themselves forced to seek information about menhirs in Biblical sources. In Biblical archaeology menhirs are usually called *masseboth* (Manor 1992, 602), literally translated as 'standing stone'. The Bible gives the notion of upright stones as being erected, for instance, by Jacob in Genesis 28; 18 and 31; 46-55. All in all, the notion appears 36 times in the Old Testament. At the same time, it must be noted that, in an archaeological context, the identification of an upright stone as a Biblical *masseboth* can be problematic. An orthostatic or monolithic stone could indeed be just a stone without any other function other than being a part of a wall or standing alone without any connection to another structure.

Geographical Distribution

In Palestine, monoliths or rheostats have been excavated or recorded at several sites such as Tell Yarmouth, which was dated to the Chalcolithic/Early Bronze period (Miroshedji 1989), Tell Gezer dating back to the Middle Bronze Age II (Dever 1987) and Hazor from the Late Bronze Age (Yadin 1956). At Hazor 10 were found, forming a semicircle and made of basalt stone; one of them is decorated with carved uplifted arms, perhaps of a worshipper toward a disk and crescent on top of the stele.

As far as Jordan proper is concerned, the JADIS identifies 27 menhir sites, but clearly quite many more exist and have been recorded, for instance on the Ard al Kerak plateau as well as further south. In 1889 the team of the *Survey of Eastern Palestine* described the very large field of dolmens and



Fig. 4: Hajar al Mansoub menhir, close to al Mureighat/ Zerqa Ma'in

menhirs in the area of al Mareighat south of Ma'in, which had been visited earlier by Irby and Mangles. The height of the rows of standing stones varies from one to another but comes up to 1.86 m (Conder 1989, 184-187). These rows seem to clearly delineate a cultic nucleus of the Mareighat area. The local people of this area also identify an outstanding menhir as *Hajar el-Mansoub* (Fig. 4), a lone, erected stone standing in a field nearby overlooking the Wadi Zerka Ma'in from the north/west, measuring 2.75 m in height and 1.50 m in width (it was pulled down by gold-diggers a few years ago but re-erected). Two more apparent menhirs are lying close by, a tall, broken one with a cylindrical/conical form (measuring 3.40m according to Jaussen/Savignac, but nowadays broken in smaller pieces), the other with a clearly trapezoid form. Jaussen and Savignac pointed out to the unusual phallic (or anthropomorphic?) form of this stone. Al Mareighat, with its unique collection of menhirs, dolmen and alignments, can be considered as a mini- 'Stonehenge' of Jordan and will hopefully be properly surveyed soon (S. Savage conducted a first survey of the central cult site in 2000). Unfortunately, here again a huge Governmental stone quarry slowly eats up part of the area.

Conder identified a somewhat similar cult centre with concentric alignments and a large central cairn on a hillock called al Kurmiyeh, just west of Tell Hesban. At the time, this was also surrounded by dolmen fields facing the cult centre. Only a very few dolmen in the area are nowadays still bear witness of that pre-historical cult site. A third example of a cult site including alignments, surrounded by dolmen fields, seems to be the area of Jebel Mutawwraq.

More menhirs were noted by earlier travellers and explorers to Jordan. For example, Irby and Mangles (1844, 143) identified as the first ones the two menhirs of Khirbet Iskander in Wadi Waleh, south of Madaba (there even seems to have been a third one across the river); P. Mallon (1924, 417) recorded a few at Sahl el-Draa (modern name edh-Dhra') and R. P. Abel (1929:243) identified a group of menhirs on the road leading from the city of el-Kerak to el-Minah. Monoliths were also found in the centre and vicinity of modern day Amman, for example at Kowm Yajouz and Ras el-Marqab (Conder 1989); others were seen at Ain Jadidah (obviously close to the dolmen site of Wadi Jadidah), Umm-Houwatt (in the area of Mount Nebo), at Khirbet Adir (Fig. 5) and at Lejjoun east of the city el-Karak (Stekelis 1935, 34). This last group, mentioned earlier, forms a unique row of originally 16 or 18 erected stones in a roughly straight line, going

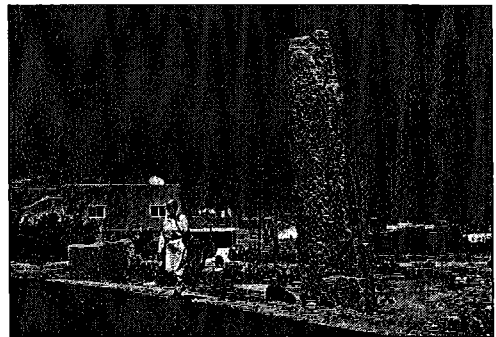


Fig. 5: A menhir at Adir, near the city of Al Kerak

down the Wadi slope and being overlooked by an extensive EB I settlement. The site Adir has been investigated and also dated to EB I (Albright 1934). Adir is best known for its 5 m high monolith, the tallest in Jordan, next to which another fallen monolith rests. To its north another group of four fallen stone pillars, once in line and alternating in basalt and limestone, were found as part of a cultic enclosure (Worschech 2002). More recently, Scheltema recently recorded two large standing stones, one (which has recently been pulled down and broken) in the direct vicinity of the Rawdah dolmen field and another one clearly associated with a group of dolmen east of the village of Rassun (north of Ajlun). The last one, by the way, seems to have a hollow similar to the one reported by Condor (1889) on Menhirs in Amman and elsewhere. Both are on the slope of a mountain.

Again, many of the reported menhirs have been demolished. The most obvious historical examples are those which were once recorded by Conder in the Amman city center (Conder 1989; but one, erected on a circular plateau, still survives mid-town Amman in the Wadi Sakra!) but the threat is everywhere and thus the number of megalithic structures has diminished rapidly.

Menhirs certainly do not occur as frequently as dolmens, which is understandable as their function (or -with the passage of time- functions) has been very different. They also seem to appear more frequently in the areas south of Amman, where dolmen fields are gradually becoming rarer, and clearly continue as a phenomenon into the Arabian Peninsula, even though the size of the monoliths seems smaller on average in the south. The well-known site of er-Rajajil in the Jauf region of Saudi-Arabia, dated to the fourth millennium BC, is an excellent example (Zarins 1977) of the latter.

FUNCTION

Most scholars are convinced that the monoliths were connected with a religious cult, in the Levant as well as elsewhere, and indeed the Biblical term *masseboth* suggests a cult stone. There is evidence that the site on which the upright stone had been erected was often dedicated to special rituals. Some have gone so far as to suggest that these monoliths mark a specific location where a deity was believed to be present, or perhaps where people used to come and bring their sacrifices or/and offerings to the deity. It appears that some distinction can be made between larger monoliths, standing without a clear direct context (except sometimes for a dolmen field nearby) and the somewhat smaller (row of) erected stones, which clearly form part of a cultic enclosure. This second group of (often relatively small) monoliths, found primarily, it seems, in the more southern areas of Jordan, clearly enter into the same cultic tradition as those of the Negev and Sinai deserts (e.g. Avner 1984; Worschech 2002, 50), as well as the Saudi peninsula.

Standing stones could also have served as a tomb or cemetery monument and been erected to commemorate a dead person, to mark the place of the tomb, as is the case in Muslim religion, or mark an event such as a victory or to honour a person at the entrance of the city. Another function for upright stones could have been a border mark between two pieces of lands. This for example was practice among the Akkadians in Mesopotamia during the second half of the third century BC and called *Kudurru* (Graesser 1972).

Menhirs were sometimes built above a high place with a predominant orientation to the east, facing the sun rise that may indicate radiation, life, fertility and strength (Avner 1984, 118). A less common orientation towards the sunset has been explained as *being* connected with the cult of death (Bar-

Yosef *et al.* 1983; the stone at edh-Dhra' may be an example of the latter). However, most menhirs in Jordan are standing on slopes of the mountain overlooking wadis and cannot be clearly associated with astronomical phenomena, as their orientation is not evident.

All in all, a menhir could thus serve as a cultic point, and/or serve a memorial, legal, commemorative and/or honorary purpose. In later times, monolithic pillars carved in the rock were used by the Nabataeans as symbols (bethyls), as is still clearly visible in Petra. However, those symbols have been explained as either to represent the dead or related to a deity (Körber 1994, 69).

DATING

The earliest regional evidences of orthostatic constructions in the region have been found at the sites of Goepkli Tepe and Nevali Çori in south-eastern Turkey and have been dated to the beginning of the Neolithic period, during the ninth millennium BC (Özdoğan and Başgelen 1999). The standing stones were decorated with carved animal figures.

In Jordan, the site of 'Ain Ghazal produced similar standing stones, built as a part of cultic buildings and considered to have been of religious importance (Kafafi and Rollefson 1995). They have been dated to the Late Pre-Pottery Neolithic Period (ca. 6500-6000 BC). Moreover, K. Kenyon excavated a standing stone in a Pre-Pottery Neolithic B level (7th millennium BC) at Jericho (Kenyon 1957).

In the case of menhirs dating evidence is limited due the small number of excavations directly related to them. Therefore, what we have there is only scanty information, spread thinly in some surveying reports. Indirect information, such as the closeness of the EB site to the stones of Lejjun, suggest a relationship in time, without providing any conclusive proof as of now.

To day, in Jordan actually only two archaeological soundings have been conducted at menhir sites. The first one was conducted by W. F. Albright (1926; 1934) at the site of Adir in the vicinity of the city al Kerak. In his sounding Albright found Early Bronze Age I pottery sherds (Albright 1934), as well as some Middle Bronze pottery.

An excavation conducted in 1992 at the area located to the east of the Dead Sea Lisan region by C. Körber of the German Archaeological Institute in Amman (Körber 1994, 69-74) has provided some additional information. The menhir at edh-Dhra' was first recognised by Mallon (1924), who noted a few more close to the EB site of Bab edh-Dhra', which now have disappeared.

As a result of the German test field work at the site edh-Dhra' Körber reported that the earliest horizon reached by the excavation at edh-Dhra', belonging to the time when the monolith was apparently erected, was Chalcolithic, according to the pottery sherds. The menhir, apparently erected in an open cult area, was re-used later and connected with other architectural features; in particular a terrace and a wall 400m long running east-west were added in the Early Bronze Age IV. At a later phase the menhir was again re-used as a tomb monument. (Körber 1994, 72). Unfortunately, Körber did not publish a map, drawings or photos of the excavated pottery sherds found at the site.

During his survey in the area of Negev and eastern Sinai in the period between 1977 and 1982 Avner (1984, 15) registered thirty sites containing upright stones, often in immediate proximity to settlements of the fourth and third millennia BC. He added that he found some of them standing either alone or in groups forming either curved or straight lines. Avner excavated some of these sites and rediscovered at some of them fan scrapers, shell beads, grinding stones and one copper

pendant. He suggested a date in the fourth or third millennium BC (Avner 1984, 115-117; Pl 15:3). This was however challenged by uncalibrated C14 dates obtained from excavated sites, which produced the following results:

- a. Uvda Valley (west of Wadi Araba): 6960 ± 70 B. P. (sample PTA 3621) and 5670 ± 85 (sample RT 748B).
- b. Wadi Zalaqa (eastern Sinai): 5690 ± 50 (sample PTA 3655); 5590 ± 79 (PTA 3633) and 5440 ± 80 B.P (sample RT 648 A). (Avner 1984: 117).

It is obvious that the mentioned above C14 dates are actually predating the artifactual evidence. The previous dates suggest continued use throughout the Early Bronze Age and, in a few cases, into the earliest phases of the second millennium BC.

It is evident from the above that not enough dating evidence has been collected so far; at the same time it seems likely from results of soundings conducted in the south of Jordan, the south of Palestine and in eastern Sinai that standing stones in the southern part of the Levant may be dated predominantly around the end of the fourth millennium BC (Late Chalcolithic/Early Bronze Age I).

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CONCLUSION

In Jordan dolmen fields have always been build at a short distance from the original quarry and usually concentrated alongside wadi slopes. This means that the specificity of a geological formation was a determining factor for their construction. In several cases, menhirs were found side by side with dolmens and the best example of this can be found in the Wadi Zerka Ma'in area.

Megalithic structures in Jordan have been the object of several field studies as of the second half of the nineteenth century. Scholars have suggested different functions and dates to the dolmens and menhirs. Contrary to the dolmen fields located on the eastern slopes of the southern part of the Jordan Valley, few if any obvious remnants of burial practices have been registered at dolmen fields other regions, which complicated the dating. From the limited evidence so far, the Early Bronze Age I seems to be the most prevailing period of construction of the dolmens and menhirs in Jordan, although the practice seems to have started in the Chalcolithic. Much more research and excavations are still clearly needed, however, to substantiate the dating, precise function and their relationship with settlements.

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